

(19) World Intellectual Property  
Organization  
International Bureau



542 302

(43) International Publication Date  
29 July 2004 (29.07.2004)

PCT

(10) International Publication Number  
**WO 2004/063364 A1**

(51) International Patent Classification: C12N 5/08

(21) International Application Number:  
PCT/EP2004/000183

(22) International Filing Date: 14 January 2004 (14.01.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
MI2003A000043 14 January 2003 (14.01.2003) IT

(71) Applicant (for all designated States except US): SINTO-FARM S.P.A. [IT/IT]; Via Togliatti, 5, I-42016 Guastalla (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): PERBELLINI, Alberto [IT/IT]; Via IV Novembre, 14, I-37126 Verona (IT). VENTURA, Carlo [IT/IT]; Via San Petronio Vecchio, 53, I-40125 Bologna (IT). MAIOLI, Margherita [IT/IT]; Viale San Pietro, 4, I-07100 Sassari (IT).

(74) Agent: GERVASI, Gemma; Notarbartolo & Gervasi S.p.A., Corso di Porta Vittoria, 9, I-20122 Milan (IT).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:**

— of inventorship (Rule 4.17(iv)) for US only

**Published:**

— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: USE OF RETINOIC ESTERS OF HYALURONIC ACID FOR THE DIFFERENTIATION OF TOTIPOTENT STEM CELLS

(57) Abstract: The present invention relates to a new use of retinoic esters of hyaluronic acid, that exhibit pro-differentiating activity on totipotent stem cells. The invention also relates to a process to differentiate said stem cells and to select molecules capable of modulating the pro-differentiating activity of these esters.

WO 2004/063364 A1